

08 / 477 704 response 1 18 2003

page two

In claim 249, change "device" to 'engine'.

In claims 274 through 276, change "dlstict" to 'distinct'.

Change the number of the claim following claim 338 from "239" to '339'.

In claim 335, change "224" to '220'.

Please add claims 349 through 388, as follows (total 40 claims):

349,	as allowed claim	224,	dependent on claim	348,
350,	"	227,	"	348,
351,	" (amended)	231,	"	350,
352,	"	234,	"	350,
353,	"	237,	"	352,
354,	"	240,	"	348,
355,	"	243,	"	348,
356,	"	246,	"	350,
357,	" (amended)	249,	"	350,
358,	"	252,	"	356,
359,	"	255,	"	357,
360,	"	258,	"	358,
361,	"	261,	"	359,
362,	"	264,	"	348,
363,	"	267,	"	350,
364,	"	270,	"	348,
365,	"	273,	"	348,
366,	"	276,	"	348,
367,	"	281,	"	348,
368,	"	282,	"	367,
369,	"	287,	"	348,
370,	"	288,	"	369,
371,	"	291,	"	350,
372,	"	294,	"	350,
373,	"	297,	"	371,
374,	"	300,	"	372,
375,	as presumably allowable claim	303,	"	348,
376,	"	306,	"	348,
377,	"	309,	"	348,
378,	"	312,	"	348,
379,	"	319,	"	348,
380,	"	312,	"	379,
381,	"	323,	"	350,
382,	"	325,	"	381,
383,	as allowed claim	329,	"	348,
384,	"	332,	"	350,

08 / 477 704 response 1 18 2003

page three

385,	"	335,	"	349,
386,	"	338,	"	351,
387,	"	341,	"	348,
388,	"	344,	"	348,
389,	"	347,	"	350,

A fully written out schedule of all outstanding claims in this application is attached, including notation of changes and additions made in this response.

In the schedule, the applicant has included in brackets adjacent to present claim numbers the probable new numbers that would be in a published version of the disclosure and claims.

#### ARGUMENTS

Of the non-allowed claims, all have been rejected by the examiner because the disclosure has been considered to be not enabling. After careful review, the applicants agree that the disclosure may not be wholly sufficient as the basis for six of the outstanding claims, so claims 313 through 318 are canceled as noted above. The other five claims were canceled because the applicant considered they concerned material already claimed elsewhere.

With respect to all the other rejected claims, the applicant strongly disagrees with the examiner, and considers that there is full and complete disclosure in text and diagrams to warrant all claims. It appears that many documents sent by the applicant around a year or more ago have been received by the PTO but may not yet have found their way into the examiner's case file. To assist the examiner, the schedule of claim references sent earlier is enclosed. It recites the enabling portion of text and diagrams for each claim outstanding at the time of the examiner's last office action.

It is respectfully submitted that claims 303, 306, 309 and 312 would be allowable if directed to main claim 220, rather than deleted claim 222. They are properly enabled by the disclosure.

The examiner has allowed certain dependent claims, which he has properly examined and found to be enabled by the disclosure. Surely, if an identically worded dependent claim is directed to another main claim, that identically worded dependent claim must be considered enabled also. It is respectfully submitted that the examiner's own precedent has established that most of the rejected claims, as well as identically worded new claims, are allowable. These are set out in the schedule below.

Allowed	Identical allowable	New allowable
224	223	349
227	225, 226	350
231	230	351
234	232, 233	352
237	235, 236	353

08 / 477 704 response 1 18 2003

page four

240	238, 239	354
243	241, 242	355
246	244, 245	356
249	247, 248	357
252	250, 251	358
255	253, 254	359
258	256, 257	360
261	259, 260	361
264	262, 263	362
267	265, 266	363
270	268, 269	364
273	271, 272	365
276	274, 275	366
281	277, 279	367
282	278, 280	368
287	283, 285	369
288	284, 286	370
291	289, 290	371
294	292, 293	372
297	295, 296	373
300	298, 299	374
329	327, 328	383
332	330, 331	384
335	333, 334	385
338	336, 337	386
341	339, 340	387
344	342, 343	388
347	345, 346	389

*If amended claims 303, 306, 309 and 312 now reading on main claim 220 are allowed, then other identical claims would be allowable:*

303	301, 302	375
306	304, 305	376
309	307, 308	377
312	310, 311	378

*It is respectfully submitted that dependent claims 319, 322, 323 and 325 which were rejected by the examiner are properly enabled by the disclosure, and should be allowed. If so, identically worded dependent claims should also be allowable:*

08 / 477 704 response 1 18 2003

page five

319	320	379
322	321	380
323	324	381
325	326	382

*It is respectfully submitted that the deletions, amendments and additions to the claims, together with the arguments, ensure that all the present claims are now in order and should be allowed. Considering the documents submitted around February 2002 (copies of any that are not yet in the examiner's file can be immediately forwarded), together with the amendments to the claims above, it would appear that case is ready to be allowed.*

*Sincerely,*



*Mitja Victor Hinderks.*

*Sole inventor, applicant and power-of-attorney of record.*

*In my application number 08 /477 704 titled "Reciprocating Elements and Associated Fluid Flows" filed on June 7 1995 under group art 3747, WHAT I CLAIM IS:*

*[In this schedule of claims, changes to the claims before the examiner at the time of his office action mailed July 19 2002 are noted by means of brackets (deletions) and underlining (additions). Claims 349 through 387 are NEW and were submitted as part of the response to the above office action of January 18 2003. A parallel set of new claim numbers starting from number one is provided in square brackets adjacent, to the present claim numbers.*

[1]            218.    *A rotatable shaft, a mechanism and device for the working of fluids, said device comprising a housing with a cylinder assembly mounted therein, at least one component assembly mounted to reciprocate within said cylinder assembly, said cylinder assembly having at least one first working surface and said component assembly having at least one second working surface such that said working surfaces in operation are approximately parallel and co-axial and variably spaced, said surfaces partly defining at least one fluid working chamber varying in capacity during an operating cycle of said device, means deployed between said cylinder assembly and said component assembly to cause said component assembly and said second surface to rotate while reciprocating relative to said cylinder assembly and said first surface, said component assembly being linked to said shaft by said mechanism, said mechanism causing said shaft to only rotate while said component assembly reciprocates and rotates.*

[42]           219.    *A rotatable shaft, a mechanism and device for the working of fluids, said device comprising a housing with a cylinder assembly mounted therein, at least one component assembly mounted to reciprocate within said cylinder assembly, said cylinder assembly having at least one first working surface and said component assembly having at least one second working surface such that said working surfaces in operation are approximately parallel and co-axial and variably spaced, said surfaces partly defining at least one fluid working chamber varying in capacity during an operating cycle of said device, means deployed between said cylinder assembly and said component assembly to cause said component assembly and said*

*second surface to rotate while reciprocating relative to said cylinder assembly and said first surface, said component assembly being linked to said shaft by said mechanism, said mechanism causing said shaft to only rotate while said component assembly reciprocates and rotates, said cylinder assembly being rotatably mounted in said housing.*

- [82] 220. *A rotatable shaft, a mechanism and device for the working of fluids, said device comprising a housing with a cylinder assembly mounted therein, at least one component assembly mounted to reciprocate within said cylinder assembly, said cylinder assembly having at least one working surface and said component assembly having at least one second working surface such that said working surfaces in operation are approximately parallel and co-axial and variably spaced, said surfaces partly defining at least one fluid working chamber varying in capacity during an operating cycle of said device, each of said surfaces being of endless wave-like configuration to permit and limit said component assembly and said second surface to both reciprocate and rotate relative to said cylinder assembly and said first surface, said mechanism causing said shaft to only rotate while said component assembly reciprocates and rotates.*
- Deleted (221. *The device of claim 219 including a mechanism and a rotatable shaft, said shaft linked to said component assembly by said mechanism such that said shaft only rotates while said component assembly reciprocates and rotates.*)
- Deleted (222. *The device of claim 220 including a mechanism and a rotatable shaft, said shaft linked to said component assembly by said mechanism such that said shaft only rotates while said component assembly reciprocates and rotates.*)
- [2] 223. *The device of claim [1] 218, (a housing,) said cylinder assembly being rotatably mounted in said housing.*
- [83] 224. *The device of claim [82] 220, (a housing,) said cylinder assembly being rotatably mounted in said housing.*

- [3] 225. *A reciprocating internal combustion engine, including a fuel delivery system, an exhaust emissions control system and the device of claim [1] 218.*
- [43] 226. *A reciprocating internal combustion engine, including a fuel delivery system, an exhaust emissions control system and the device of claim [42] 219.*
- [84] 227. *A reciprocating internal combustion engine, including a fuel delivery system, an exhaust emissions control system and the device of claim [82] 220.*
- Deleted (228. *The engine of claim 226 including a mechanism and a rotatable shaft, said shaft linked to said component assembly by said mechanism such that said shaft only rotates while said component assembly reciprocates and rotates.*)
- Deleted (229. *The engine of claim 227 including a mechanism and a rotatable shaft, said shaft linked to said component assembly by said mechanism such that said shaft only rotates while said component assembly reciprocates and rotates.*)
- [4] 230. *The engine of claim [3] 225, (a housing,) said cylinder assembly being rotatably mounted in said housing.*
- [85] 231. *The engine of claim [84] 227, (a housing,) said cylinder assembly being rotatably mounted in said housing.*
- [5] 232. *A compound engine comprising the engine of claim [3] 225, at least one other engine, and a special means for transferring work between each of said at least two engines.*
- [44] 233. *A compound engine comprising the engine of claim [43] 226, at least one other engine, and a special means for transferring work between each of said at least two engines.*

- [86] 234. *A compound engine comprising the engine of claim [84] 227, at least one other engine, and a special means for transferring work between each of said at least two engines.*
- [6] 235. *The compound engine of claim [5] 232, wherein said special means include the flow of heated gases.*
- [45] 236. *The compound engine of claim [44] 233, wherein said special means include the flow of heated gases.*
- [87] 237. *The compound engine of claim [86] 234, wherein said special means include the flow of heated gases.*
- [7] 238. *The device of claim [1] 218, wherein said component assembly defines a passage for fluids worked by said device.*
- [46] 239. *The device of claim [42] 219, wherein said component assembly defines a passage for fluids worked by said device.*
- [88] 240. *The device of claim [82] 220, wherein said component assembly defines a passage for fluids worked by said device.*
- [8] 241. *The device of claim [1] 218, including structure which defines a volume at least partially surrounding said cylinder assembly, in operation said volume functioning as a passage for fluids worked by said device.*
- [47] 242. *The device of claim [42] 219, including structure which defines a volume at least partially surrounding said cylinder assembly, in operation said volume functioning as a passage for fluids worked by said device.*
- [89] 243. *The device of claim [82] 220, including structure which defines a volume at least partially surrounding said cylinder assembly, in operation said volume functioning as a passage for fluids worked by said device.*



- [9] 244. *The engine of claim [3] 225, wherein said component assembly defines a passage for fluids worked by said device.*
- [48] 245. *The engine of claim [43] 226, wherein said component assembly defines a passage for fluids worked by said device.*
- [90] 246. *The engine of claim [84] 227, wherein said component assembly defines a passage for fluids worked by said device.*
- [10] 247. *The engine of claim [3] 225, including structure which defines a volume at least partially surrounding said cylinder assembly, in operation said volume functioning as a passage for fluids worked by said device.*
- [49] 248. *The engine of claim [43] 226, including structure which defines a volume at least partially surrounding said cylinder assembly, in operation said volume functioning as a passage for fluids worked by said device.*
- [91] 249. *The (device)engine of claim [84] 227, including structure which defines a volume at least partially surrounding said cylinder assembly, in operation said volume functioning as a passage for fluids worked by said device.*
- [11] 250. *The engine of claim [9] 244, including filamentary material within said passage.*
- [50] 251. *The engine of claim [48] 245, including filamentary material within said passage.*
- [92] 252. *The engine of claim [90] 246, including filamentary material within said passage.*
- [12] 253. *The engine of claim [10] 247, including filamentary material within said volume.*
- [51] 254. *The engine of claim [49] 248, including filamentary material within said volume.*
- [93] 255. *The engine of claim [91] 249, including filamentary material within said volume.*

- [13] 256. *The engine of claim [11] 250, wherein said filamentary material is catalytic to expedite reactions between elements of the working fluids.*
- [52] 257. *The engine of claim [50] 251, wherein said filamentary material is catalytic to expedite reactions between elements of the working fluids.*
- [94] 258. *The engine of claim [93] 252, wherein said filamentary material is catalytic to expedite reactions between elements of the working fluids.*
- [14] 259. *The engine of claim [12] 253, wherein said filamentary material is catalytic to expedite reactions between elements of the working fluids.*
- [53] 260. *The engine of claim [51] 254, wherein said filamentary material is catalytic to expedite reactions between elements of the working fluids.*
- [95] 261. *The engine of claim [93] 252, wherein said filamentary material is catalytic to expedite reactions between elements of the working fluids..*
- [15] 262. *The device of claim [1] 218, including insulating material at least partially encasing said device.*
- [54] 263. *The device of claim [42] 219, including insulating material at least partially encasing said device.*
- [96] 264. *The device of claim [82] 220, including insulating material at least partially encasing said device.*
- [16] 265. *The engine of claim [3] 225, including insulating material at least partially encasing said engine.*
- [55] 266. *The engine of claim [43] 226, including insulating material at least partially encasing said engine.*

- [97] 267. *The engine of claim [84] 227, wherein said cylinder assembly is formed at least in part of ceramic material.*
- [17] 268. *The device of claim [1] 218, wherein said cylinder assembly is formed at least in part of ceramic material.*
- [56] 269. *The device of claim [42] 219, wherein said cylinder assembly is formed at least in part of ceramic material.*
- [98] 270. *The device of claim [82] 220, wherein said cylinder assembly is formed at least in part of ceramic material.*
- [18] 271. *The device of claim [1] 218, wherein said component assembly is formed at least in part of ceramic material.*
- [57] 272. *The device of claim [42] 219, wherein said component assembly is formed at least in part of ceramic material.*
- [99] 273. *The device of claim [82] 220, wherein said component assembly is formed at least in part of ceramic material.*
- [19] 274. *The device of claim [1] 218, wherein said component assembly has a first (distinct)distinct surface and said cylinder assembly a second distinct surface, in operation said distinct surfaces being approximately constantly spaced from and approximately parallel to one another, at least one of said distinct surfaces defining at least one depression wholly fillable by fluids worked by said device.*
- [58] 275. *The device of claim [42] 219, wherein said component assembly has a first (distinct)distinct surface and said cylinder assembly a second distinct surfaces, in operation said distinct surfaces being approximately constantly spaced from and approximately parallel to one another, at least one of said distinct surfaces defining at least one depression wholly fillable by fluids worked by said device.*

- [100] 276. *The device of claim [82] 220, wherein said component assembly has a first (distict)distinct surface and said cylinder assembly a second distinct surfaces, in operation said distinct surfaces being approximately constantly spaced from and approximately parallel to one another, at least one of said distinct surfaces defining at least one depression wholly fillable by fluids worked by said device.*
- [20] 277. *The device of claim [1] 218, wherein said cylinder assembly is comprised of portions including at least one element, each said element holding said portions together and being pre-loaded under tension.*
- [21] 278. *The device of claim [20] 277, wherein said element is of tubular form.*
- [59] 279. *The device of claim [42] 219, wherein said cylinder assembly is comprised of portions including at least one element, each said element holding said portions together and being pre-loaded under tension.*
- [60] 280. *The device of claim [59] 279, wherein said element is of tubular form.*
- [101] 281. *The device of claim [82] 220, wherein said cylinder assembly is comprised of portions including at least one element, each said element holding said portions together and being pre-loaded under tension.*
- [102] 282. *The device of claim [101] 281, wherein said element is of tubular form.*
- [22] 283. *The device of claim [1] 218, wherein said component assembly is comprised of portions including at least one element, each said element holding said portions together and being pre-loaded under tension.*
- [23] 284. *The device of claim [22] 283, wherein said element is of tubular form.*
- [61] 285. *The device of claim [42] 219, wherein said component assembly is comprised of portions including at least one element, each said element holding said portions together and being pre-loaded under tension.*

- [62] 286. *The device of claim [61] 285, wherein said element is of tubular form.*
- [103] 287. *The device of claim [82] 220, wherein said component assembly is comprised of portions including at least one element, each said element holding said portions together and being pre-loaded under tension.*
- [104] 288. *The device of claim [103] 287, wherein said element is of tubular form.*
- [24] 289. *The engine of claim [3] 225, wherein said cylinder assembly is formed at least in part of ceramic material.*
- [63] 290. *The engine of claim [43] 226, wherein said cylinder assembly is formed at least in part of ceramic material.*
- [105] 291. *The engine of claim [84] 227, wherein said cylinder assembly is formed at least in part of ceramic material.*
- [25] 292. *The engine of claim [3] 225, wherein said component assembly is formed at least in part of ceramic material.*
- [64] 293. *The engine of claim [43] 226, wherein said component assembly is formed at least in part of ceramic material.*
- [106] 294. *The engine of claim [84] 227, wherein said component assembly is formed at least in part of ceramic material.*
- [26] 295. *The engine of claim [24] 289, including at least one electrical circuit within said ceramic material.*
- [65] 296. *The engine of claim [63] 290, including at least one electrical circuit within said ceramic material.*

- [107] 297. *The engine of claim [105] 291, including at least one electrical circuit within said ceramic material.*
- [27] 298. *The engine of claim [25] 292, including at least one electrical circuit within said ceramic material.*
- [66] 299. *The engine of claim [64] 293, including at least one electrical circuit within said ceramic material.*
- [108] 300. *The engine of claim [106] 294, including at least one electrical circuit within said ceramic material.*
- [28] 301. *The rotatable shaft, mechanism and device of claim [1] 218, in which said mechanism comprises a series of splines slidably mounted on another series of splines.*
- [67] 302. *The rotatable shaft, mechanism and device of claim [42] (221)219, in which said mechanism comprises a series of splines slidably mounted on another series of splines.*
- [109] 303. *The rotatable shaft, mechanism and device of claim [82] (222)220, in which said mechanism comprises a series of splines slidably mounted on another series of splines.*
- [29] 304. *The rotatable shaft, mechanism and device of claim [1] 218 including rollers, in which said mechanism comprises a series of flanges slidably mounted on another series of flanges, said two series of flanges being separated by said rollers.*
- [68] 305. *The rotatable shaft, mechanism and device of claim [42] (221)219 including rollers, in which said mechanism comprises a series of flanges slidably mounted on another series of flanges, said two series of flanges being separated by said rollers.*

- [110] 306. *The rotatable shaft, mechanism and device of claim [82] (222)220 including rollers, in which said mechanism comprises a series of flanges slidably mounted on another series of flanges, said two series of flanges being separated by said rollers.*
- [30] 307. *The rotatable shaft, mechanism and device of claim [1] 218, wherein said mechanism comprises at least one bellows.*
- [69] 308. *The rotatable shaft, mechanism and device of claim [42] (221)219, wherein said mechanism comprises at least one bellows.*
- [111] 309. *The rotatable shaft, mechanism and device of claim [82] (222)220, wherein said mechanism comprises at least one bellows.*
- [31] 310. *The rotatable shaft, mechanism and device of claim [1] 218, wherein said mechanism comprises at least one hinged element.*
- [70] 311. *The rotatable shaft, mechanism and device of claim [42] (221)219, wherein said mechanism comprises at least one hinged element.*
- [112] 312. *The rotatable shaft, mechanism and device of claim [82] (222)220, wherein said mechanism comprises at least one hinged element.*
- Deleted (313. *The device of claim 218, wherein said mechanism comprises at least one pump.*
- Deleted 314. *The device of claim 221, wherein said mechanism comprises at least one pump.*
- Deleted 315. *The device of claim 222, wherein said mechanism comprises at least one pump.*
- Deleted 316. *The engine of claim 225, wherein said mechanism comprises at least one pump.*
- Deleted 317. *The engine of claim 228, wherein said mechanism comprises at least one pump.*
- Deleted 318. *The engine of claim 229, wherein said mechanism comprises at least one pump.)*

- [32] 319. *The device of claim [1] 218, wherein said means comprise a guide restrained by a single endless substantially sinusoidal path.*
- [71] 320. *The device of claim [42] 219, wherein said means comprise a guide restrained by a single endless substantially sinusoidal path.*
- [33] 321. *The device of claim [32] 319, wherein said guide is a roller of truncated conical configuration.*
- [72] 322. *The device of claim [71] 320, wherein said guide is a roller of truncated conical configuration.*
- [34] 323. *The engine of claim [3] 225, wherein said means comprise a guide restrained by a single endless substantially sinusoidal path.*
- [73] 324. *The engine of claim [43] 226, wherein said means comprise a guide restrained by a single endless substantially sinusoidal path.*
- [35] 325. *The engine of claim [34] 323, wherein said guide is a roller of truncated conical configuration.*
- [74] 326. *The engine of claim [73] 324, wherein said guide is a roller of truncated conical configuration.*
- [36] 327. *The device of claim [1] 218, wherein said fluid working chamber is at least partially of toroidal configuration.*
- [75] 328. *The device of claim [42] 219, wherein said fluid working chamber is at least partially of toroidal configuration.*
- [113] 329. *The device of claim [82] 220, wherein said fluid working chamber is at least partially of toroidal configuration.*



- [37] 330. *The engine of claim [3] 225, wherein said fluid working chamber is at least partially of toroidal configuration.*
- [76] 331. *The engine of claim [43] 226, wherein said fluid working chamber is at least partially of toroidal configuration.*
- [114] 332. *The engine of claim [84] 227, wherein said fluid working chamber is at least partially of toroidal configuration.*
- [77] 333. *The device of claim [42] 219, wherein said housing comprises insulating material.*
- Deleted (334. *The device of claim 223, wherein said housing comprises insulating material.*)
- [115] 335. *The device of claim [83] 224, wherein said housing comprises insulating material.*
- [78] 336. *The engine of claim [43] 226, wherein said housing comprises insulating material.*
- [38] 337. *The engine of claim [4] 230, wherein said housing comprises insulating material.*
- [116] 338. *The engine of claim [85] 231, wherein said housing comprises insulating material.*
- [39] 339. *The device of claim [1] 218, wherein said component assembly consists of one monolithic piece.*
- [79] 340. *The device of claim [42] 219, wherein said component assembly consists of one monolithic piece.*
- [117] 341. *The device of claim [82] 220, wherein said component assembly consists of one monolithic piece.*
- [40] 342. *The device of claim [1] 218, wherein said component assembly has a projecting portion which at least partly penetrates said segment during at least part of said cycle.*

- [80] 343. *The device of claim [42] 219, wherein said component assembly has a projecting portion which at least partly penetrates said segment during at least part of said cycle.*
- [118] 344. *The device of claim [82] 220, wherein said component assembly has a projecting portion which at least partly penetrates said segment during at least part of said cycle.*
- [41] 345. *The engine of claim [3] 225, wherein said component assembly has a projecting portion which at least partly penetrates said segment during at least part of said cycle.*
- [81] 346. *The engine of claim [43] 226, wherein said component assembly has a projecting portion which at least partly penetrates said segment during at least part of said cycle.*
- [119] 347. *The engine of claim [84] 227, wherein said component assembly has a projecting portion which at least partly penetrates said segment during at least part of said cycle.*
- [120] 348. *A rotatable shaft, a mechanism and device for the working of fluids, said device comprising a housing with a cylinder assembly mounted therein, at least one component mounted to reciprocate within said cylinder assembly, said cylinder assembly having at least one working surface and said component having at least one second working surface such that said working surfaces in operation are approximately parallel and co-axial and variably spaced, said surfaces partly defining at least one fluid working chamber varying in capacity during an operating cycle of said device, means deployed between said cylinder assembly and said component to cause said component and said second surface to rotate while reciprocating relative to said cylinder assembly and said first surface, said mechanism causing said shaft to only rotate while said component assembly reciprocates and rotates, said housing including substantial insulating material.*

*All the following are NEW claims:*

- [121] 349. *The device of claim [120] 348, said cylinder assembly being rotatably mounted in said housing.*
- [122] 350. *A reciprocating internal combustion engine, including a fuel delivery system, an exhaust emissions control system and the device of claim [120] 348*
- [123] 351. *The engine of claim [122] 350, said cylinder assembly being rotatably mounted in said housing.*
- [124] 352. *A compound engine comprising the engine of claim [122] 350, at least one other engine, and a special means for transferring work between each of said at least two engines.*
- [125] 353. *The compound engine of claim [124] 352, wherein said special means include the flow of heated gases.*
- [126] 354. *The device of claim [120] 348, wherein said component assembly defines a passage for fluids worked by said device.*
- [127] 355. *The device of claim [120] 348, including structure which defines a volume at least partially surrounding said cylinder assembly, in operation said volume functioning as a passage for fluids worked by said device.*
- [128] 356. *The engine of claim [122] 350, wherein said component assembly defines a passage for fluids worked by said device.*
- [129] 357. *The engine of claim [122] 350, including structure which defines a volume at least partially surrounding said cylinder assembly, in operation said volume functioning as a passage for fluids worked by said device.*
- [130] 358. *The engine of claim [128] 356, including filamentary material within said passage.*

- [131] 359. *The engine of claim [129] 357, including filamentary material within said volume.*
- [132] 360. *The engine of claim [130] 358, wherein said filamentary material is catalytic to expedite reactions between elements of the working fluids.*
- [133] 361. *he engine of claim [131] 359, wherein said filamentary material is catalytic to expedite reactions between elements of the working fluids.*
- [134] 362. *The device of claim [120] 348, including insulating material at least partially encasing said device.*
- [135] 363. *The engine of claim [122] 350, wherein said cylinder assembly is formed at least in part of ceramic material.*
- [136] 364. *The device of claim [120] 348, wherein said cylinder assembly is formed at least in part of ceramic material.*
- [137] 365. *The device of claim [120] 348, wherein said component assembly is formed at least in part of ceramic material.*
- [138] 366. *The device of claim [120] 348, wherein said component assembly has a first (distict)distinct surface and said cylinder assembly a second distinct surfaces, in operation said distinct surfaces being approximately constantly spaced from and approximately parallel to one another, at least one of said distinct surfaces defining at least one depression wholly fillable by fluids worked by said device.*
- [139] 367. *he device of claim [120] 348, wherein said cylinder assembly is comprised of portions including at least one element, each said element holding said portions together and being pre-loaded under tension.*
- [140] 368. *The device of claim [139] 367, wherein said element is of tubular form.*

- [141] 369. *The device of claim [120] 348, wherein said component assembly is comprised of portions including at least one element, each said element holding said portions together and being pre-loaded under tension.*
- [142] 370. *The device of claim [141] 369, wherein said element is of tubular form.*
- [143] 371. *The engine of claim [122] 350, wherein said cylinder assembly is formed at least in part of ceramic material.*
- [144] 372. *The engine of claim [122] 350, wherein said component assembly is formed at least in part of ceramic material*
- [145] 373. *The engine of claim [143] 371, including at least one electrical circuit within said ceramic material.*
- [146] 374. *The engine of claim [144] 372, including at least one electrical circuit within said ceramic material.*
- [147] 375. *The rotatable shaft, mechanism and device of claim [120] 348, in which said mechanism comprises a series of splines slidably mounted on another series of splines.*
- [148] 376. *The rotatable shaft, mechanism and device of claim [120] 348 including rollers, in which said mechanism comprises a series of flanges slidably mounted on another series of flanges, said two series of flanges being separated by said rollers.*
- [149] 377. *The rotatable shaft, mechanism and device of claim [120] 348, wherein said mechanism comprises at least one bellows.*
- [150] 378. *The rotatable shaft, mechanism and device of claim [120] 348, wherein said mechanism comprises at least one hinged element.*

- [151] 379. *The device of claim [120] 348, wherein said means comprise a guide restrained by a single endless substantially sinusoidal path.*
- [152] 380. *The device of claim [151] 379, wherein said guide is a roller of truncated conical configuration.*
- [153] 381. *The engine of claim [122] 350, wherein said means comprise a guide restrained by a single endless substantially sinusoidal path.*
- [154] 382. *The engine of claim [153] 381, wherein said guide is a roller of truncated conical configuration.*
- [155] 383. *The device of claim [120] 348, wherein said fluid working chamber is at least partially of toroidal configuration.*
- [156] 384. *The engine of claim [122] 350, wherein said fluid working chamber is at least partially of toroidal configuration.*
- [157] 385. *The device of claim [121] 349, wherein said housing comprises insulating material.*
- [158] 386. *The engine of claim [123] 351, wherein said housing comprises insulating material.*
- [159] 387. *The device of claim [120] 348, wherein said component assembly consists of one monolithic piece.*
- [160] 388. *The device of claim [120] 348, wherein said component assembly has a projecting portion which at least partly penetrates said segment during at least part of said cycle.*

[161] 389. *The engine of claim [122] 350, wherein said component assembly has a projecting portion which at least partly penetrates said segment during at least part of said cycle.*

*END OF CLAIMS*

1

US Patent Application **08 / 477 704** filed June 7 1995  
Applicant: Mitja V Hinderks

## REFERENCES for CLAIMS 218 through 347

*Please note that the text specifies that any feature can be combined with any other feature of the disclosure. For example, see page 104 lines 1 to 3; page 208 line 1.*

Claim No: See Figures and Text:

218 Page 177 lines 12 to 19

Figures 364, 367, 371 through 376; pages 176 line 13 through 182 line 8.

219 Figures 397 through 400(b); pages 191 line 15 through 194 line 17.

Figures 408 through 411; pages 199 line 2 through 200 line 11.

220 Figure 368, page 179 lns 1 through 18.

Figures 390 through 393, 395, 396; pages 186 ln 12 through 187 ln 28,  
pages 188 ln 13 through 191 ln 14.

~~221~~

Combines 219 with the features of 218. See above.

~~222~~

Combines 220 with the features of 218. See above.

223

Combines 218 with the features of 219. See above.

224

Combines 220 with the features of 219. See above.

225 through 231

As claims 218 through 224, except that the device becomes a  
reciprocating internal combustion engine. Page 103 lines 17 through 25  
specifies that the disclosures relate to any type of engine or pump.



## 2

- 232, 233, 234      Figures 135 through 143, 180; pages 98 line 1 through page 101 line 13.  
Figures 351, 252, 253; page 127 lines 9 through 26.  
Figures 398, 399; pages 192 line 10 through 193 line 14.
- 235, 236, 237      Figures 135 through 143, 180; pages 98 line 1 through page 101 line 13.  
Figures 351, 252, 253; page 127 lines 9 through 26.
- 238, 239, 240      Figures 354 through 359; pages 171 line 20 through 173 line 28.  
Figure 394; page 188 lines 4 through 12.  
Figures 408 through 411; pages 198 line 25 through 200 line 11.  
Figure 416, 418, 419, 420; pages 201 line 1 through 207 line 26.
- 241, 242, 243      Figures 408 through 411; pages 198 line 25 through 200 line 11.  
Figure 416, 418, 419, 420; pages 201 line 1 through 207 line 26.
- 244, 245, 246,      As for claims 238 to 240.
- 247, 248, 249      As for claims 241 to 243.
- 250 through 255      Figures 1 through 5; pages 15 line 19 to page 19 line 11.  
Figures 29 through 72, 125 through 131; pages 39 line 7 to 47 line 27.
- 256 through 261      Page 18 line 10 through 26.  
Page 20 lines 6 through 17.  
Page 23 line 1 through 24 line 3.
- 262 through 267      Figures 189, 242; pages 172 line 9 through 173 line 15.  
Figures 254, 255; pages 127 line 26 through 128 line 8.  
Figure 408 through 411; pages 198 line 25 through 200 line 11.  
Figures 416 through 420; pages 198 line 25 through 200 line 11.